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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/437,205	11/09/1999	ALEXANDER G. MACINNIS	36103/SAH/B6	7650

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EXAMINER

YANG, RYAN R

ART UNIT	PAPER NUMBER
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2672

DATE MAILED: 01/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/437,205

Applicant(s)

MACINNIS ET AL.

Examiner

Ryan R Yang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 29 October 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23, 25-41 is/are pending in the application.
- 4a) Of the above claim(s) 24 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21, 22 and 41 is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-20, 23, 25, 26 and 29-39 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 27, 28 and 40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This action is responsive to communications: Amendment, filed on 10/29/01.

This action is final.

2. Claims 1-23 and 25-41 are pending in this application. Claims 1, 22, 23 and 41 are independent claims. In the Amendment, filed on 10/29/01, claims 1-2, 21-23, 29-30 and 41 were amended, claim 24 was canceled.

3. The present title of the invention is "Graphics Display System With Anti-Aliased Text and Graphics Feature" as filed originally.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1- 2, 6, 17-18, 23, 26 and 37-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Murphy (6,038,031).

As per claim 1, Murphy discloses a method of displaying a graphical element comprising the steps of:

filtering the graphical element with a low pass filter to generate a multi-level value per pixel at an intended final display resolution (Figure 4; 430; "Bilinear filtering improves the appearance of texture mapping surfaces by considering the values of four adjacent texels in order to determine the value of the displayed pixel", column 2, line 53-56); and

using the multi-level values as alpha blend values for the graphical element in a subsequent compositing stage (Figure 4; 450, since the RGBA registers is 32-bit, the alpha blend value is multi-level value),

wherein generation of the multi-level values do not depend on alpha blend values that existed prior to filtering ("At the edge of the cut-out, where valid and invalid source pixels are adjacent, the alpha values after filtering vary in proportion to the distance from the edge of the cut-out", column 6, line 52-55).

6. As per claim 2, Murphy demonstrated all elements as applied in the rejection of independent claim 1, supra, and further discloses wherein the multi-level values are written into a display buffer where the multi-level values are used as alpha blend values when contents of the display buffer are composited with other graphics and video images (Figure 2; RAMDAC 295).

Claim Rejections - 35 USC § 103

7. Claims 3-5 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy (6,038,031), and further in view of Foley et al. (Computer Graphics: Principles and Practice).

As per claims 3-5, Murphy demonstrated all elements as applied in the rejection of independent claim 1, supra.

It is noted that Murphy does not explicitly disclose the graphical element is "initially rendered at a higher resolution than the intended final display resolution", and "is initially rendered at four times the resolution of the intended final display resolution in

a horizontal axis", and "is initially rendered at four times the resolution of the intended final display resolution in a vertical axis", however, this is known in the art as taught by Foley et al., hereinafter, Foley. Foley discloses that in order to prevent damage caused by an inadequate initial sampling rate "a rule of thumb is that supersampling four times in each of x and y often will be satisfactory", page 643, line 4-5.

Thus, It would have been obvious to one of ordinary in the art at the time the invention was made to incorporate the teaching of Foley into Murphy in order to prevent image damage caused by inadequate sampling.

8. As per claim 6, Murphy demonstrated all elements as applied in the rejection of independent claim 1, supra, and further discloses wherein the low pass filter is a box filter ("four adjacent texels", column 2, line 54-55).

9. Claims 9-16, 19-20, 24, 29-36 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy (6,038,031).

As per claim 9, Murphy demonstrated all elements as applied in the rejection of independent claim 1, supra.

As for using "the alpha blend values include CLUT indexes, each CLUT index is associated with a CLUT entry, and each CLUT entry contains a CLUT alpha blend value", the method of using CLUT for blending color is notoriously well known in the art, therefore would have been obvious to use it for faster alpha blending.

10. As per claim 10, Murphy demonstrated all elements as applied in the rejection of independent claim 1, supra.

As for “the alpha blend values are used to form alpha portions of pixels having a color portion and an alpha portion”, since Murphy discloses the color data is RGBA data, column 3, line 38, it is obvious it has a color portion and an alpha portion.

11. As per claim 11, Murphy demonstrated all elements as applied in the rejection of dependent claim 10, supra.

As for the pixels having color portions and alpha portions are in an alphaRGB (4,4,4,4) format, the format is notoriously well known in the art and would have been obvious to use it at the time of invention because it is a designer’s choice of a well known format.

12. As per claim 12, Murphy demonstrated all elements as applied in the rejection of independent claim 1, supra.

As for the graphical element has a plurality of foreground colors, which are filtered using a low pass filter, Murphy’s source pixels are considered foreground colors, and since its color of pixels are represented in RGBA format, it is obvious that the pixels have a plurality of colors.

13. As per claim 13, Murphy demonstrated all elements as applied in the rejection of dependent claim 12, supra.

As for the filtered plurality of foreground colors are used as color portions of pixels having a color portion and an alpha portion, since Murphy discloses the color data is RGBA data, column 3, line 38, it is obvious it has a color portion and a alpha portion.

14. As per claim 14, Murphy demonstrated all elements as applied in the rejection of dependent claim 13, supra.

As for the pixels having a color portion and an alpha portion are in an alphaRGB format, since Murphy discloses the color data is RGBA data, column 3, line 38, it is obvious it has a color portion and a alpha portion.

15. As per claim 15, Murphy demonstrated all elements as applied in the rejection of dependent claim 13, supra.

As for the pixels having a color portion and an alpha portion are in an alphaYUV format, since Murphy discloses the YUV format is an alternate color coding system in the computer graphics industry, column 8, line 1-2, It would have been obvious to one of ordinary in the art at the time the invention was made to also incorporate the alternate format.

16. As per claim 16, Murphy demonstrated all elements as applied in the rejection of dependent claim 12, supra.

As for the filtered plurality of foreground colors are used as color choices in a CLUT format, since the method of using CLUT for blending color is notoriously well known in the art, therefore would have been obvious to use it for faster color blending.

17. As per claims 17 and 18, Murphy demonstrated all elements as applied in the rejection of independent claim 1, supra, and further discloses an outline of the graphical element, including all colors other than background color, is filtered using the low pass filter, wherein the graphical element has a plurality of foreground colors and wherein the filtered outline is used as an alpha per pixel value ("At the edge of the cut-out, where

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valid and invalid source pixels are adjacent, the alpha value after filtering vary in proportion to the distance from the edge of the cut-out", column 6, line 52-55).

18. As per claim 19, Murphy demonstrated all elements as applied in the rejection of dependent claim 18, supra.

As for the filtered outline is used as the alpha per pixel value in a direct color format, the direct color format including an alphaRGB format, the format is notoriously well known in the art and would have been obvious to use it at the time of invention because it is a designer's choice of a well known format

19. As per claim 20, Murphy demonstrated all elements as applied in the rejection of dependent claim 18, supra.

As for the filtered outline is used as a choice of an alpha value per CLUT entry in a CLUT format, the method of using CLUT for blending color is notoriously well known, therefore would have been obvious to use it for faster color blending.

20. As per claim 23, Murphy discloses a graphics display system for displaying a graphical element comprising:

a low pass filter for filtering the graphical element to generate multi-level values, one multi-level value per each pixel, at an intended final display resolution (Figure 4; 430);

a display buffer for storing the multi-level values (Figure 3; 340, Localbuffer Write 340 stores Localbuffer data to memory, column 7, line 51); and

a display engine for compositing the multi-level values with graphics images using the multi-level values as alpha blend values (Figure 3; 360, Texture/Fog/Blend 360 modifies color, column 7, line 55, where the Fog is graphics image),

wherein generation of the multi-level values do not depend on alpha blend values that existed prior to filtering ("At the edge of the cut-out, where valid and invalid source pixels are adjacent, the alpha values after filtering vary in proportion to the distance from the edge of the cut-out", column 6, line 52-55).

21. As per claim 25, Murphy demonstrated all elements as applied in the rejection of independent claim 23, supra.

It is noted that Murphy does not explicitly disclose the graphical element is "initially rendered at a higher resolution than the intended final display resolution", however, this is known in the art as taught by Foley. Foley discloses that in order to prevent damage caused by an inadequate initial sampling rate "a rule of thumb is that supersampling four times in each of x and y often will be satisfactory", page 643, line 4-5.

22. As per claim 26, Murphy demonstrated all elements as applied in the rejection of independent claim 23, supra, and further discloses wherein the low pass filter is a box filter ("four adjacent texels", column 2, line 54-55).

23. As per claim 29, Murphy demonstrated all elements as applied in the rejection of independent claim 23, supra.

As for including CLUT indexes in alpha blending, the method is notoriously in the art, therefore would have been obvious to use it for faster alpha blending.

24. As per claim 30, Murphy demonstrated all elements as applied in the rejection of independent claim 23, supra.

As for "the alpha blend values are used to form alpha portions of pixels having a color portion and an alpha portion", since Murphy discloses the color data is RGBA data, column 3, line 38, it is obvious that it has a color portion (RGB) and an alpha portion (A).

25. As per claim 31, Murphy demonstrated all elements as applied in the rejection of dependent claim 30, supra.

As for the pixels having color portions and alpha portions are in an alphaRGB (4,4,4,4) format, the format is notoriously well known in the art and would have been obvious to use it at the time of invention because it is a designer's choice of a well known format.

26. As per claim 32, Murphy demonstrated all elements as applied in the rejection of independent claim 23, supra.

As for the graphical element has a plurality of foreground colors, which are filtered using a low pass filter, Murphy's source pixels are considered foreground colors, and since its color of pixels are represented in RGBA format, it is obvious that the pixels have a plurality of colors.

27. As per claim 33, Murphy demonstrated all elements as applied in the rejection of dependent claim 32, supra.

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As for the colors are used as color portions of pixels having a color portion and an alpha portion, since the color is represented in RGBA format it is obvious that it has a color portion and an alpha portion.

28. As per claim 34, Murphy demonstrated all elements as applied in the rejection of dependent claim 33, supra.

As for the pixels having a color portion and an alpha portion are in an alphaRGB format, it is noted that Murphy uses RGBA format, however, since the alpha representation defers only in position, they are considered equivalent.

29. As per claim 35, Murphy demonstrated all elements as applied in the rejection of dependent claim 33, supra.

As for the pixels having a color portion and an alpha portion are in an alphaYUV format, since Murphy discloses the YUV format is an alternate color coding system in the computer graphics industry, column 8, line 1-2, It would have been obvious to one of ordinary in the art at the time the invention was made to also incorporate the alternate format.

30. As per claim 36, Murphy demonstrated all elements as applied in the rejection of dependent claim 32, supra.

As for the filtered plurality of foreground colors are used as color choices in a CLUT format, since the method of using CLUT for blending color is notoriously well known in the art, therefore would have been obvious to use it for faster color blending.

31. As per claims 37 and 38, Murphy demonstrated all elements as applied in the rejection of independent claim 23, supra, and further discloses wherein an outline of the

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graphical element, including all colors other than background color, is filtered using the low pass filter, wherein the graphical element has a plurality of foreground colors and wherein the filtered outline is used as an alpha per pixel value ("At the edge of the cut-out, where valid and invalid source pixels are adjacent, the alpha value after filtering vary in proportion to the distance from the edge of the cut-out", column 6, line 52-55).

32. As per claim 39, Murphy demonstrated all elements as applied in the rejection of dependent claim 38, supra.

As for the filtered outline is used as the alpha per pixel value in a direct color format, the direct color format including an alphaRGB format, the format is notoriously well known in the art and would have been obvious to use it as the time of invention because it is designer's choice of a well known format.

Allowable Subject Matter

33. Claims 7-8, 27-28 and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

34. Claims 21-22 and 41 are allowed.

Response to Arguments

35. Applicant's arguments filed 10/29/01 have been fully considered but they are not persuasive.

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Regarding claims 1 and 23, Murphy (6,038,031) discloses in column 6, line 52-55, that "At the edge of the cut-out, where valid and invalid source pixels are adjacent, the alpha values after filtering vary in proportion to distance from the edge of the cut-out", which means the alpha values have altered from the original values.

Conclusion

36. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiries

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Ryan Yang** whose telephone number is **(703) 308-6133**.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Michael Razavi**, can be reached at **(703) 305-4713**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Ryan Yang
January 7, 2002

Jeffery A. Brier
JEFFERY BRIER
PRIMARY EXAMINER